

ABSTRACT OF THE DISCLOSURE

Excitation light for normal light observation with wavelengths in the visible spectrum, which is output from a lamp, and excitation light with wavelengths in the infrared spectrum for exciting a fluorescent substance characteristic of being accumulated readily in a lesion are irradiated simultaneously to a living tissue, to which the fluorescent substance has been administered, through an endoscope. Fluorescence components are separated from light stemming from the living tissue by means of a separator such as a dichroic mirror, introduced to a first imaging device, and then imaged. Light components with wavelengths in the visible spectrum are introduced to a second imaging device and then imaged. Signals representing the images are subjected to signal processing, whereby a video signal is produced. For better diagnosis, two images are displayed while, for example, one of the images is superimposed on the other.